

Listing of the Claims:

1-48. (Cancelled)

49. (Currently Amended) A method for detecting osteoarthritis in a human test subject, said method comprising:

a) ~~quantifying~~Quantifying in RNA of a blood sample from said test subject, a level of RNA encoded by ~~the gene~~a desmuslin (DMN) gene in said a blood sample of said test subject; and

b) ~~comparing~~Comparing said quantified level of RNA in said sample of said test subject with a quantified level of control RNA encoded by said gene in ~~RNA of blood samples from of~~control subjects which are classified as healthy control subjects; and

c) comparing said level of RNA in said sample of said test subject with a quantified level of control RNA encoded by said gene in blood samples of control subjects which are classified as having osteoarthritis;

wherein ~~said comparison of a statistically significant determination resulting from steps (b) and (c) that expression of said quantified level of step (a) with gene in said sample of said test subject is different relative to said quantified level of said samples of said control RNA subjects classified as healthy control subjects, and is similar relative to said samples of said control subjects classified as having osteoarthritis~~ is indicative of osteoarthritis in said human test subject.

50. (Currently Amended) The method of claim 49, wherein said blood sample of ~~step (a)~~said test subject and said blood samples ~~from of~~said control subjects in step (b) are selected from the group consisting of whole blood samples, blood samples which have not been fractionated into cell types and blood samples which comprise leukocytes which have not been fractionated into cell types.

51. (Cancelled)

52. (Currently Amended) The method of ~~any of claims 49, or 50 or 51~~, wherein said quantifying of said level of ~~said~~-RNA encoded by said gene in said sample of said test subject in step (a) is effected by ~~quantifying said RNA~~ relative to a housekeeping gene.
53. (Currently Amended) The method of ~~any of claims 49, or 50 or 51~~, wherein said quantifying of said level of ~~said~~-RNA encoded by said gene in said sample of said test subject in step (a) is effected by quantification of cDNA complementary corresponding to said RNA encoded by said gene.
54. (Cancelled)
55. (Cancelled)
56. (Currently Amended) The method of ~~any of claims 49, or 50 or 51~~, wherein said quantifying of said level of ~~said~~-RNA encoded by said gene ~~in step (a)~~ is effected determined using quantitative ~~real-time~~ RT-PCR.
57. (Currently Amended) The method of ~~any of claims 49, or 50 or 51~~, wherein said quantifying of said level of ~~said~~-RNA encoded by said gene ~~in step (a)~~ is effected determined using an array.
58. (New) The method of claim 49 or 50, wherein said human test subject is suspected of having osteoarthritis.
59. (New) A method of detecting expression of a desmuslin (DMN) gene in a human test subject, said method comprising detecting RNA encoded by said gene in a blood sample of said test subject, using an oligonucleotide of predetermined sequence which is specific only for RNA encoded by said gene in said sample, and/or for cDNA complementary to RNA encoded by said gene in said sample.
60. (New) The method of claim 59, wherein said detecting of RNA comprises producing an amplification product from RNA encoded by said gene in said blood sample of said test subject, using primers specific only for RNA encoded by said gene and/or for cDNA complementary to RNA encoded by said gene.

61. (New) The method of claim 60, further comprising quantifying a level of RNA encoded by said gene in said sample.
62. (New) The method of claim 61, further comprising comparing said level of RNA to a quantified level of control RNA encoded by said gene in blood samples of control subjects.
63. (New) The method of claim 62, wherein said control subjects are selected from the group consisting of: subjects classified as healthy subjects and subjects classified as not having osteoarthritis.
64. (New) The method of claim 63, wherein said control subjects classified as not having osteoarthritis are classified as healthy subjects.
65. (New) The method of claim 63, wherein said control subjects are classified as healthy subjects.
66. (New) The method of claim 65, further comprising classifying said test subject as being a candidate for having osteoarthritis if said level of RNA encoded by said gene in said blood sample of said human test subject is significantly different relative to said quantified level of control RNA in said blood samples of said control subjects classified as healthy subjects.
67. (New) The method of claim 65, wherein said gene is differentially expressed in said blood sample of said human test subject relative to said blood samples of said control subjects classified as healthy subjects with a p value less than 0.05.
68. (New) A method of screening a human test subject for being a candidate for having osteoarthritis, said method comprising:
 - (a) detecting RNA encoded by a desmuslin (DMN) gene in a blood sample of said test subject, using an oligonucleotide of predetermined sequence which is specific only for RNA encoded by said gene in said sample, and/or for cDNA complementary to RNA encoded by said gene in said sample; and
 - (b) quantifying a level of RNA encoded by said gene in said sample of said test subject; and

(c) comparing said level of RNA in said sample of said test subject to a quantified level of control RNA encoded by said gene in blood samples of control subjects classified as healthy subjects;

wherein said test subject is a candidate for having osteoarthritis if said level of RNA encoded by said gene in said blood sample of said human test subject is significantly different relative to that of said control subjects classified as healthy subjects with a p value less than 0.05.

69. (New) The method of claim 68, wherein said detecting of RNA comprises producing an amplification product from RNA encoded by said gene in said blood sample of said test subject, using primers specific only for RNA encoded by said gene and/or for cDNA complementary to RNA encoded by said gene.

70. (New) The method of claim 59, 60, 61, 62, 63, 64, 65, 66, 67, 68 or 69, wherein said blood sample is selected from the group consisting of: a whole blood sample, a blood sample which has not been fractionated into cell types, and a blood sample which comprises leukocytes which have not been fractionated into cell types.

71. (New) A method of classifying expression of a desmuslin (DMN) gene in a human test subject, said method comprising:

(a) quantifying a level of RNA encoded by said gene in a blood sample of said test subject; and

(b) comparing said level of step (a) with quantified levels of RNA encoded by said gene in blood samples of control subjects classified as having osteoarthritis; and

(c) comparing said level of step (a) with quantified levels of RNA encoded by said gene in blood samples of control subjects classified as healthy subjects;

wherein a determination from steps (b) and (c) that said level of step (a) is statistically similar to said levels in said samples of said subjects classified as having osteoarthritis and is statistically different relative to said levels in said samples of said subjects

classified as healthy subjects, results in a classification of expression of said gene in said test subject with that of said subjects classified as having osteoarthritis, and

wherein a determination from steps (b) and (c) that said level of step (a) is statistically different relative to said levels in said samples of said subjects classified as having osteoarthritis and is statistically similar to said levels in said samples of said subjects classified as healthy subjects, results in a classification of expression of said gene in said test subject with that of said subjects classified as healthy subjects.

72. (New) The method of claim 62, 63, 64, 65, 66, 67, 68, 69 or 71, wherein:

(i) said blood sample of said test subject and said blood samples of said control subjects are whole blood samples; or

(ii) said blood sample of said test subject and said blood samples of said control subjects are blood samples which have not been fractionated into cell types; or

(iii) said blood sample of said test subject and said blood samples of said control subjects are blood samples which comprise leukocytes which have not been fractionated into cell types.

73. (New) The method of claim 61, 68 or 71, wherein said quantifying of said level of RNA encoded by said gene is effected by quantifying said level of RNA relative to a housekeeping gene.

74. (New) The method of claim 61, 68 or 71, wherein said quantifying of said level of RNA encoded by said gene is effected by quantification of cDNA complementary to RNA encoded by said gene.

75. (New) The method of claim 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69 or 71, wherein said human test subject is suspected of having osteoarthritis.

76. (New) The method of claim 49, wherein none of said control subjects is selected from the group consisting of subjects which are subject to systemic steroids, subjects which have rheumatoid arthritis, subjects which have hypertension, subjects which have obesity, subjects

which have allergies, subjects which have mild osteoarthritis, and subjects which have severe osteoarthritis.

77. (New) The method of claim 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69 or 71, wherein none of said control subjects is selected from the group consisting of subjects which are subject to systemic steroids, subjects which have rheumatoid arthritis, subjects which have hypertension, subjects which have obesity, subjects which have allergies, subjects which have mild osteoarthritis, and subjects which have severe osteoarthritis.